

Introduction

The fundamental value¹ of each investment is the present value of its expected, future cash flows discounted at an appropriate risk-adjusted rate. Virtually every sophisticated equity valuation model used by leading investment banks today is based on discounted cash flows (DCF). The structure and the names of the models might differ, but the underlying idea is always the same. They are all rooted in the present value framework for equity valuation pioneered by Merton Miller and Franco Modigliani in the early 1960s.²

Economists use models to simplify the complexity of the real world. A good valuation model is simple and helps investors to make informed decisions. Many financial analysts today forget that a good model is simple, not complex. Financial economists subjectively make simplifying assumptions to focus on specific valuation aspects while neglecting other aspects. As a result, a plethora of “different” discounted cash flow approaches exists today, each with its own acronym: dividend discount models (DDM), free cash flow to the firm (FCFF) and Economic Value Added (EVA), to name just the most popular models discussed in academic literature.

Financial analysts at leading investment banks have added proprietary discounted cash flow models and new acronyms. The most sophisticated DCF models used by financial analysts today are, in our opinion, Credit Suisse’s Cash Flow Return on Investment (CFROI) model, Morgan Stanley’s ModelWare and UBS’s Value Creation Analysis Model (VCAM). In Part VI we discuss leveraged buyout (LBO) models used by Goldman Sachs, UBS and other leading investment banks. These models will be presented later in this book by leading experts who helped to develop and enhance the models. This part gives an overview of the discounted cash flow approach to prepare the reader for the problems that can arise in practice.

Part I of this book is organized as follows: Chapter 2 discusses present value calculation and the interpretation of fundamental value, Chapter 3 gives an overview of the most popular DCF models and explains how investors can estimate the main input factors of these models.

Using Baidu.com, Inc. as a practical example, Part II of this book demonstrates how investors can formulate Monte Carlo Free Cash Flow to the Firm (MC-FCFF) models. Monte Carlo simulations enable financial analysts to take the uncertainty of future cash flows and expected discount rates into account when valuing stocks.

¹ In literature, the *fundamental* value of an investment is often also called *intrinsic* or *fair* value.

² Miller and Modigliani (1961).

